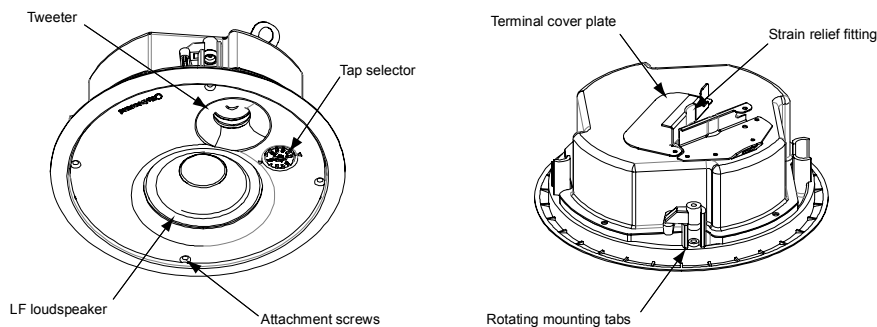


Models covered by this Quick Start Guide

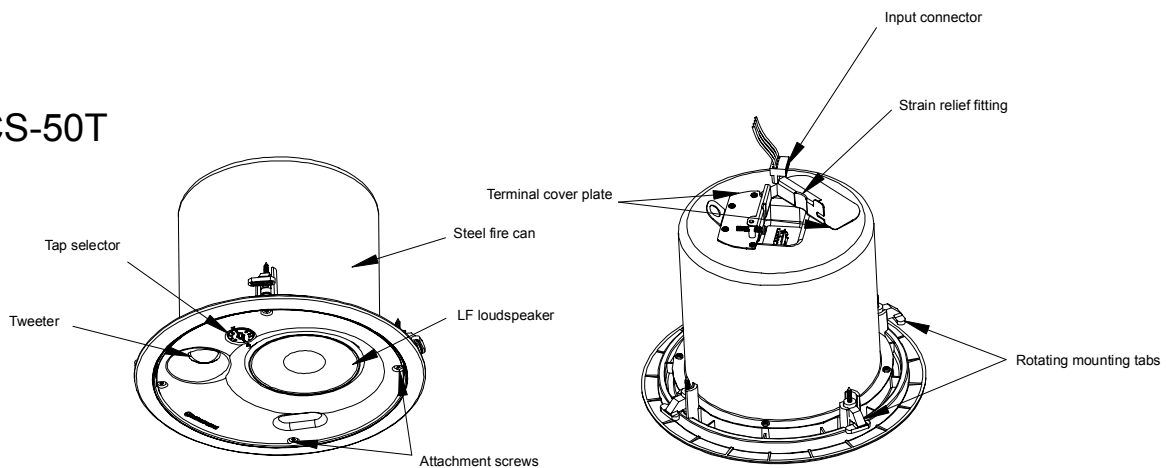
TCS-C35T, TCS-C50T ceiling speakers.

Thank you for choosing a TURBOSOUND loudspeaker product for your application. If you would like further information about this or any other TURBOSOUND product, please contact us. A detailed user manual on this product is available from our web site at www.turbosound.com.

TCS-35T



TCS-50T



Unpacking the TCS series loudspeaker

After unpacking the unit please check carefully for damage. If damage is found, please notify your supplier at once. You, the consignee, must instigate any claim. Please retain all packaging in case of future re-shipment.

System Requirements

TCS-C series ceiling loudspeakers are passive loudspeaker systems, and require only one amplifier channel for correct operation, the frequency splitting between the LF driver and the HF driver being accomplished by the internal passive crossover network.

Using Ceiling Loudspeakers with Subwoofers

If subwoofers are required, additional amplifier channels and external electronic crossovers will be required. The Turbosound LMS series digital management systems are recommended for this purpose.

Amplifier Considerations

Turbosound ceiling speakers should be driven by high quality power amplifiers designed for true professional use. Amplifiers should be capable of delivering long term broadband power **equal to the loudspeaker's program power rating at the stated nominal impedance**. Always operate your power amplifiers at maximum gain for the best headroom and signal/noise ratio, controlling the overall system volume from the mixing console. The use of under-powered amplifiers must be avoided as heavily clipped signals can cause permanent loudspeaker damage.

In a distributed system the amplifiers must be capable of supplying broadband power equivalent to the sum of the power rating of the loudspeakers (taking into account the individual power taps selected) connected to that particular amplifier channel.

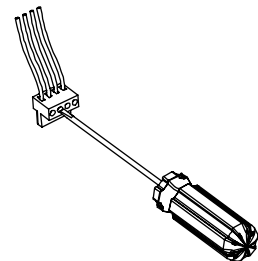
Installation Procedure

1. Cut a hole in the ceiling tile using a circular cutter set the size listed below and pull the wiring through the hole.

TCS-C35T cut-out diameter is 215mm

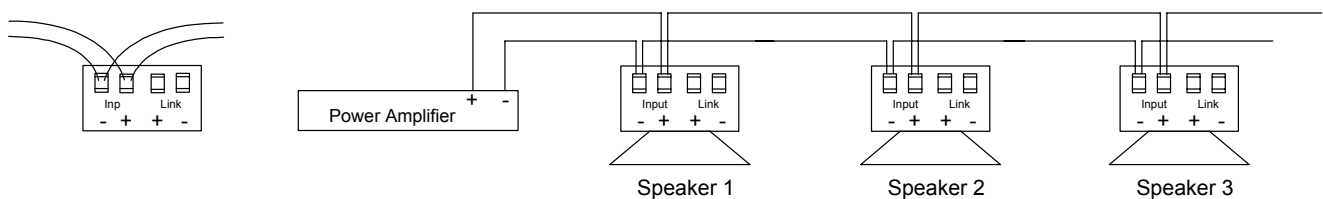
TCS-C50T cut-out diameter is 240mm

2. Connect the wiring to the removable connector. A 4-way Phoenix-style connector is supplied with the loudspeaker. Strip the insulation back by 5mm (3/16"), insert the bare ends of the wire into the connector (do not tin the wire) and screw down the hold-down screw with a small flat blade screwdriver.

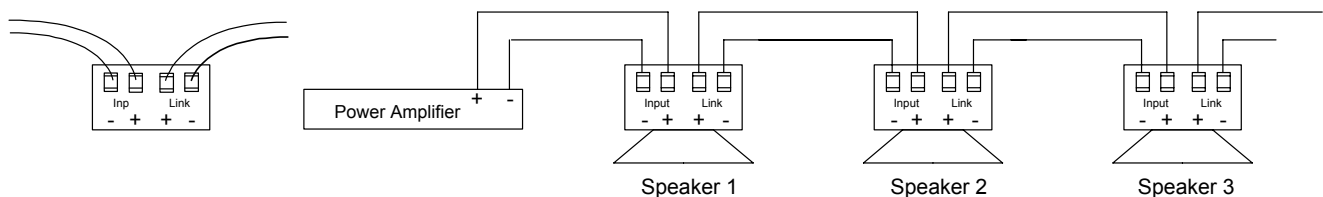


3. There are two possible connection strategies, depending on the desired circuit result when a single unit is disconnected for trouble shooting or servicing:

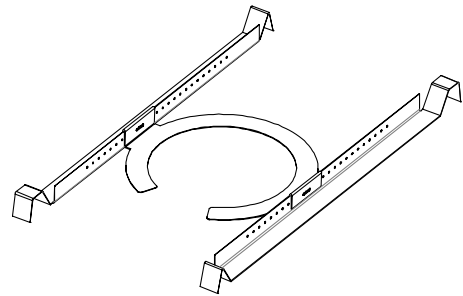
Parallel Input Terminals. This allows the circuit to remain intact whenever a speaker is disconnected. Connect the outgoing pair of wires to the same terminals as the incoming pair of wires.



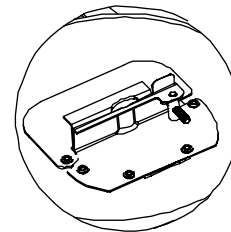
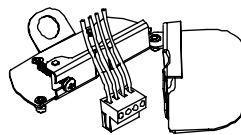
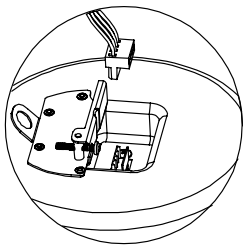
Loop-through Terminals. All loudspeakers after this unit will be disconnected, helping to isolate problems to a section of the distributed line while leaving the wires connected to the connector.



4. The mounting hardware consists of two tile rails and a 'C' plate (these are supplied with the TCS-C35T, and as an optional accessory for the TCS-C50T). Insert the tile rails through the hole in the ceiling tile and align them parallel to each other on either side of the hole, and with the ends positioned over the ceiling T grid. Insert the 'C' plate through the hole and snap the tabs onto the tile rails as shown. Position directly over the hole in the ceiling tile and secure with the fixing screws supplied. Note that the provision of multiple fixing holes in the tile rails allows the speaker to be positioned away from the centre of the tile if desired.



5. Plug the connector into the socket in the loudspeaker's terminal cup. The connector is polarised to avoid the possibility of mis-connection. The terminal cover also acts as the strain relief. Rotate the cover and tighten the retaining screw.

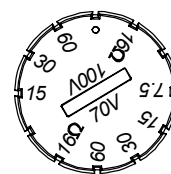


6. Connect the safety tab to a separate support point. Consult construction codes in your region.

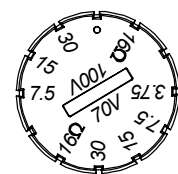
7. Insert the speaker into the ceiling and secure the fixing arms. Offer the loudspeaker into the ceiling until the back of the front baffle rim touches the ceiling tile. Turn the attachment screws to tighten the fixing arms. Note that the first 1/4 turn rotates the arm outwards and subsequent turns tighten the tab down onto the ceiling tile. DO NOT OVERTIGHTEN.

8. Adjust the voltage tap selector for desired level. The selector is located on the front baffle, and should be adjusted before fitting the grille. In some installations it may be preferable to leave grilles off until final adjustment of the tap selectors has been completed for all loudspeakers.

TCS-50T



TCS-35T



9. Apply the logo badge to the grille in the desired location if required, and fit the loudspeaker grille by pressing the grille firmly into place until it is flush with the rim.

Painting before Installation

The loudspeaker's white finish matches most décor schemes and does not need further finishing. However where interior design requires an alternative colour this can be easily accomplished. The loudspeaker can either be painted before installation, or where the rim needs to be finished at the same time as the ceiling the rim can be painted after locating in the ceiling. The speaker will accept almost any type of emulsion or oil-based paint. Two coats are recommended.

Clean the rim and grille with a light solvent such as white spirit. Do not use gasoline, kerosene, acetone, MEK, paint thinner, harsh detergents or other chemicals, all of which may damage the loudspeaker. After cleaning, apply two coats of paint, using a roller or brush, or by spraying.

Painting the Speaker with the Ceiling

Using the paint shield provided, paint the speaker and remove the shield. To paint the grille, first remove the logo and grille cloth backing. It is advisable to spray the grille to avoid the mesh becoming clogged with paint from a roller or brush, which may impair the sound quality. Replace the grille cloth and the logo.

Technical Specifications

	TCS-C35T	TCS-C50T
Dimensions	235mm (9.2") dia x 112mm (4.4") deep 100mm (3.9") minimum mounting depth	268mm (10.5") dia x 83mm (3.3") deep 206mm (8.1") minimum mounting depth
Hole cut-out	215mm (8.5")	240mm (9.5")
Net weight	2.3kg (5.1lbs)	3.4kg (7.5lbs)
Components	1 x 3.5" (89mm) LF driver 1 x 1" (25mm) HF tweeter	1 x 5" (127mm) LF driver 1 x 1" (25mm) HF tweeter
Frequency response	100Hz – 20kHz ±4dB	75Hz – 22kHz ±4dB
Nominal dispersion	150°H x 150°V @-6dB points	180°H x 180°V @-6dB points
Sensitivity	85dB (half space), 1w @ 1m	92dB (half space), 1w @ 1m
Power handling	30 watts r.m.s., 60 watts program	75 watts r.m.s., 150 watts program
Maximum SPL	100dB continuous, 106dB peak	110dB continuous, 116dB peak
Transformer taps	30W, 15W, 7.5W (100 volt line) 30W, 15W, 7.5W, 3.75W (70 volt line)	60W, 30W, 15W (100 volt line) 60W, 30W, 15W, 7.5W (70 volt line)
Nominal impedance	16 ohms nominal (low impedance)	16 ohms nominal (low impedance)
Construction	Paintable injection moulded ABS	Paintable injection moulded ABS
Grille	Powder coated perforated steel backed with acoustic cloth	Powder coated perforated steel backed with acoustic cloth
Connector	Phoenix 4-way connector	Phoenix 4-way connector
Protection	Thermal fuse disconnects speaker from distributed system	Thermal fuse disconnects speaker from distributed system
Standards	Conforms to BS5839 part 8 1988 and IEC/EN 60849 fire prevention	Conforms to BS5839 part 8 1988 and IEC/EN 60849 fire prevention

Spares and Accessories

LS-50	5" low frequency loudspeaker
LS-35	3.5" low frequency loudspeaker
TW-52	1" high frequency tweeter
PX-TCS-C50T	Passive crossover network
PX-TCS-C35T	Passive crossover network
MG-C50	Metal grille
MG-C35	Metal grille
TCS-CTR	Tile rail (supplied with TCS-C35T, optional for TCS-C50T)
TCS-CCP35	C plate for TCS-C35T (supplied with TCS-C35T)
TCS-CCP50	C plate for TCS-C50T (optional accessory for TCS-C50T)

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